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ed to stay, and afterwards sent guides with them through the woods, but so tenacious were those guides of the orders of the elders, that they would not listen to any of the doctrines of the missionaries.

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*To the Proprietors of the Belfast Magazine.*

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HAVING seen in your number for September last, an Astronomical query, by a "Star-gazer," respecting the Pole star, I was all impatience to see if your number for October would produce any thing in answer, from some able pen. But unfortunately, none has appeared, and indeed I was much surprised and disappointed thereat, as I thought that some of your scientific correspondents could not do less than contribute a little to settle no smaller a point than a pole, when it was so seriously deranged. I sincerely wish that the subject were done justice to, as I am sometimes (to amuse myself,) in the star-gazing way, as well as "Star-gazer," and like him I am no astronomer.

When any thing new or uncommon, either in theory or practice, is brought forward to public view, and neither illustration nor refutation of the thing advanced appears, we may naturally conclude and some might take it for granted, that the article admitted of no other construction, and was positively as it was stated. If this query were taken in this light, it might be attended with very bad consequences, (particularly to nautical men,) as it might be the means of breaking up the well-known and long-existing confidence between that class of men and the Lesser Bear's tail.

With all due deference to "Star-gazer," I would beg leave, before we receive his new discovery in any shape, whether as a query, or as an

established theory, to make some previous inquiries. We ought first to be made acquainted who "Star-gazer" is, that after investigation we might be able to form some opinion of his skill and accuracy as an observer; next it would be necessary to inform us what sort of instruments were used, that we might have some idea of their accuracy, and the name of the particular instrument that was used to ascertain the altitude, &c., whether it was a sextant, a quadrant, or a carpenter's rule. I am rather inclined to think it was not one of Trouton's six feet Astronomical Circles which was made use of; if it had been one of them I am almost convinced the vibration of the *tail* would not have been so great. But if the observations were accurately made with good instruments, this extraordinary deviation from the polar point is truly a phenomenon, and "Star-gazer" has the merit of the discovery, as far as I have read. I acknowledge I never heard of so serious a change of position as "Star-gazer" would make it appear, but if there be, he must only place it to the account of my ignorance. There are, however, two or three small apparent changes of position, but none of them, nor even all of them put together, would, in my opinion, make the pole-star sensibly more than 57 degrees, nor evidently the zenith distance less than 33 degrees.

It is generally known that the star, commonly called the pole-star, is not exactly in the pole, but as he states it, within two degrees of it. But not to go to minute calculations, we shall call it 1 degree and 30' distant from the true pole, therefore, by the apparent annual revolution of the fixed stars occasioned by our motion, this star will, in the course of the sidereal year, describe a circle whose radius is  $1^{\circ} 30'$ , consequent-

ly its diameter  $3^{\circ}$ , therefore the pole-star will be seen by us at sometimes under an angle of  $53^{\circ} 4''$  (taking our latitude at  $54^{\circ} 34''$ ), and zenith distance  $36^{\circ} 56''$ , at the other extreme  $56^{\circ} 4''$ , and zenith distance  $33^{\circ} 56''$ . Thus it is plain it will not be often seen under the same angle, but the utmost extreme in this case amounts to no more than 3 degrees.

Another apparent change of place is occasioned by the precession of the equinoctial points, but this is too small to be attended to in some years by any common observer; only amounting to one degree in  $71\frac{1}{2}$  or 72 years. However, upon this subject see Newton, Ferguson, &c. upon Astronomy. The last cause, (that I have read of,) of change of position in stars, is occasioned by aberration of light, but this amounts to less than the former: see Smith's optics. There are no other causes of apparent change of position of the fixed stars that I ever have heard or read of. For parallax they have none, or at least if we believe Dr. Bradley, who was reckoned a very excellent observer, it must be less than a second of a degree. They have not even annual parallax where we have the diameter of the Earth's orbit, or above 190 millions of miles for a base line or its extremities for points of view. How inconceivable then, must the distance be of those sparkling points, which when viewed from the extremes of a space of 190 millions of miles, still remain to us under the same angle: we may wonder but cannot even imagine. I shall conclude with recommending it to "Star-gazer" to re-observe his observations, and I have no doubt but he will find the principal error lies in the observer, not in the thing observed.

I also saw in your October publication, additional remarks by "Star-gazer," but as I am no classical

scholar, I do not know exactly whether Cicero or Ptolemy was the first writer, and as Ptolemy's catalogue of the stars is the most ancient that I have seen, and he makes only 13 stars in Cassiopeia, and none of them larger than the 3d magnitude; now if Ptolemy's catalogue preceded Cicero's writings, it perhaps might be that Cicero framed this clause, "Obscura species, &c." from the diminutive number, and magnitude of its stars, stated by Ptolemy. More modern writers have augmented their number: viz: Flamstead, Tycho, &c. Flamstead makes the number of stars in Cassiopeia 55, but most of them are telescopic stars; the more modern catalogues make 64, but none of them have *increased in size*; therefore "Star-gazer" is under a great mistake if he conceives that constellation to contain stars of the 1st and 2d magnitude, for I assure him the 3d magnitude is the largest contained therein. If "Star-gazer" would be candid enough to favour us with the detail of any errors in which he may find himself, I shall do what I can to set him right, but alas! it is but little that has fallen to my lot.

A MECHANIC.

Belfast 9th November, 1813.

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*To the Proprietors of the Belfast Magazine.*

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GENTLEMEN,

I HAVE read with much satisfaction, in your Magazine for October, "A Prospectus of a Statistical and Parochial Description of Ireland; by William Shaw Mason." Such an arduous undertaking deserves the thanks and support of the whole Irish nation: but, if the compiler is obliged, in every instance, to depend for information on the clergy of the *established* church, I am very much afraid the account